

REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 98-010

ORDER SETTING ADMINISTRATIVE CIVIL LIABILITY
PACIFIC REFINERY COMPANY
4901 SAN PABLO AVENUE
HERCULES, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board), finds that:

1. Pacific Refinery Company (PRC) is authorized to discharge treated wastewater and unpolluted stormwater in compliance with the wastewater discharge requirements contained in Order No. 90-104, as amended by Order Nos. 91-026, 91-099, 92-100, and Order No. 96-112 (NPDES Permit No. CA 0005096). On September 10, 1997, PRC terminated the refinery operation, ceased discharge of treated process wastewater, and sold the facility to Hercules LLC, which is a California limited liability company. Since then, no plan of refinery operation has been proposed by the new owner.
2. A previous Complaint was issued by the Executive Officer on June 20, 1995 imposing administrative civil liability against PRC in an amount of \$300,000 for 163 violations of NPDES discharge limits during the period of January 1, 1990 through May 6, 1995. PRC waived a hearing, and paid the full amount. Of this, \$240,000 was used to fund several supplemental environmental projects, and the remaining balance was paid to the Cleanup & Abatement Account.
3. During the period between May 7, 1995 and September 9, 1997, PRC violated its NPDES discharge limits on 230 days, releasing over 24.3 million gallons of inadequately treated wastewater and polluted stormwater to San Pablo Bay, a water of the States:
 - PRC violated on 28 days the 1996 Permit requirements of fish survival rates in its July and August 1997 acute bioassay tests. A Notice of Violation (NOV) was issued to PRC on September 10, 1997 for the repetitive low (to zero percent) survival rates.
 - PRC exceeded its monthly average loading limit for total suspended solids (TSS) in May 1995. It also exceeded the TSS daily maximum concentration limit on May 22, 1997.
 - For 6 weeks PRC violated the requirement of Provision 2 of Order No. 91-099 on the running annual average limit of 0.05 pounds per day for selenium mass emission rate.
 - In October 1996 and May 1997, PRC discharged effluent exceeding the 30-day average mercury concentration limit for 16 and 14 days, respectively. No causes for the exceedances were reported. These discharges violated the effluent limits established in Provision A.3 of the 1996 Permit.

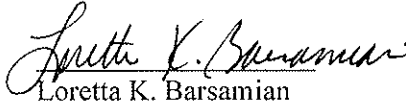
- PRC violated the daily average nickel concentration limit on three days in October 1995 and one day in August 1996. The discharges in October 1995 were reportedly due to the introduction of hydroblasting water into the wastewater treatment plant without prior analyzing the wastewater. The hydroblasting water contained high concentrations of nickel. A NOV was issued to PRC on October 30, 1995 citing these violations.
 - PRC violated the daily average cyanide concentration limit in its February 18, 1996 discharge.
 - PRC discharged stormwater on April 15, 1996 and August 20, 1997 in violation of the pH requirements established in Provision A.8 of the 1990 Permit. The third pH violation was on April 30, 1996 in which PRC attributed the pH exceedance to instrument failure. Similar pH meter problems have occurred and were cited in the 1995 Complaint.
 - In its December 1996 effluent discharges, tetrachlorodibenzodioxin (TCDD) equivalents was detected at a concentration exceeding by 334% the monthly average limit specified in the 1996 Permit. Additionally, the monthly average polyaromatic hydrocarbon (PAHs) concentration limits for Chrysene and Benzo(a)anthracene were also exceeded.
 - On December 21, 1996, PRC discharged stormwater with oil and grease concentrations exceeding the 1996 Permit requirement of 15 mg/l.
 - PRC did not comply with the Section E.4 of "Standard Provisions and Reporting Requirements", dated August 1993, in its transfer of ownership of the refinery by failing to provide a written notice to the Board at least 30 days in advance of the proposed transfer date. 40CFR122.61 also contains similar requirements on the transfer issue. Board staff only received a written notice one day after the actual transfer.
4. The Executive Officer issued Complaint No. 97-133 to PRC on December 17, 1997. The Complaint proposed administrative civil liability be imposed by the Regional Board in the amount of \$362,000 including \$12,000 for staff costs, pursuant to California Water Code Section 13385. The Complaint addressed the above PRC's violations of its NPDES discharge limits. Since the Complaint was issued, PRC has not waived the public hearing.
 5. This Order imposes administrative civil liability of \$362,000 including \$12,000 for recovery of staff costs.
 6. The Board has fully considered the following factors which are set forth for determination of the amount of civil liability set forth in Water Code Section 13385(e):
 - Nature, Circumstances and Extent of Violations. PRC has discharged more than 24.3 million gallons of partially treated wastewater and polluted stormwater to San Pablo Bay during this period. It violated the effluent limitations and the requirements of several provisions of NPDES Permits as described in finding 3 above for a total of 230 days. Pollutants included conventional, non-conventional and toxics. Many of the toxics are persistent and bioaccumulative.
 - Gravity of Violations. Above-mentioned pollutants at concentrations exceeding the effluent limitations set forth in the 1990 and 1996 Permits have been shown to be toxic

to fish and aquatic species to various extent. The discharge of over 24.3 million gallons of wastewater containing these pollutants into San Pablo Bay is believed to have impacted its beneficial uses and aquatic community.

- Degree of Culpability. The various violations were caused by PRC's failure to ensure reliable operation of the wastewater treatment plant and to provide proper and sufficient management oversight of its staff performance.
 - Prior History. In 1995, PRC was fined \$300,000 for 163 violations of NPDES discharge limits during the period of January 1, 1990 through May 6, 1995. Some of the violations cited here (e.g., exceeding limits for pH and mercury, and bioassay test failure) have occurred before, and were either bases of the 1995 Complaint or subjects of notice of violation sent to PRC.
 - Economic Savings. PRC's economic savings would amount to the corporate interest or investment income earned from capital and expenses that would have otherwise been spent on plant improvement and additional staffing needs necessary for compliance with its NPDES permit. The amount of economic savings has not been quantified.
 - Ability to Pay. Since PRC had ceased its refinery operation and sold the property to Hercules LLC before this Complaint, the proposed civil liability is believed to have no effect on its business decision. It should be able to pay the monetary penalty of \$362,000 through its revenue obtained from the sale of the facility and continuous operation in other parts of California and the United States.
7. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of CEQA pursuant to Section 15321(a)(2), Title 14 of the California Code of Regulations.
8. On February 18, 1998, the Board conducted a public hearing at which PRC appeared, and evidence was received concerning PRC.

IT IS HEREBY ORDERED, PURSUANT TO CALIFORNIA WATER CODE SECTION 13385 that Pacific Refinery Company, is civilly liable for the violations of its NPDES discharge limits, and shall pay administrative liability in the amount of \$362,000. The liability shall be paid to the State Water Pollution Cleanup and Abatement Account within 30 days of the date of this Order.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 18, 1998.


Loretta K. Barsamian
Executive Officer

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

In the Matter of:)	COMPLAINT NO. 97-133
)	FOR
PACIFIC REFINING COMPANY)	ADMINISTRATIVE
HERCULES)	CIVIL LIABILITY
CONTRA COSTA COUNTY)	
)	
)	

YOU ARE HEREBY GIVEN NOTICE THAT:

1. You are alleged to have violated provisions of the law, or orders of the Regional Water Quality Control Board, San Francisco Bay Region (Regional Board), for which the Regional Board may impose civil liability under Section 13385 of the Water Code.
2. Unless waived, a hearing on this matter will be held before the Regional Board on January 21, 1998 in the BART Headquarters located at 800 Madison Street (second floor assembly room) in Oakland, California. You or your representative(s), will have an opportunity to be heard and to contest the allegations in this Complaint and the imposition of civil liability by the Regional Board. An agenda showing the time set for the hearing will be mailed to you not less than 10 days before the hearing date. You must submit any written comments, including written copies of any reports, testimony, or other evidentiary material concerning this complaint to the Regional Board by January 9, 1998. Any written evidence not so submitted may not be considered by the Board.
3. At the hearing the Regional Board will consider whether to affirm, reject or modify the proposed administrative liability, or whether to refer the matter to the Attorney General for recovery of judicial civil liability.

ALLEGATIONS

4. You are alleged to be in violation of Section 13385 of the Water Code, by failing to operate the Pacific Refining Company's (Pacific) wastewater treatment plant in compliance with the waste discharge requirements contained in Order No. 90-104, as amended by Order Nos. 91-026, 91-099 and 92-100, and Order No. 96-112 (NPDES Permit No. CA0005096).
5. The following facts are the basis for the alleged violations in this matter:
 - a. Pacific operated a petroleum refinery in the City of Hercules until September 9, 1997. Products manufactured at the site include gasoline, diesel, jet fuel, gas oil and asphalt.

- b. The refinery discharged an average of 0.22 mgd of treated industrial wastewater, including process wastewater, cooling tower and boiler blowdown, sanitary sewage, and polluted stormwater runoff through a deepwater outfall E-001 to San Pablo Bay. No E-001 discharge has occurred since September 9, 1997. Stormwater runoff is still discharged through outfalls E-002 and E-003.
 - c. The discharge was subject to Board Order Nos. 90-104 and 96-112, for the periods before and after August 21, 1996, respectively. These Orders allow treated wastewater to be discharged to San Pablo Bay, a water of the State.
 - d. The Board previously issued Amended Complaint No. 95-049 on June 20, 1995 imposing administrative civil liability (ACL) against Pacific in an amount of \$300,000 for 163 violations of NPDES discharge limits during the period of January 1, 1990 through May 6, 1995. Of that ACL amount, \$60,000 was paid to the State Cleanup and Abatement Account, and the remaining \$240,000 was paid to the City of Hercules for use in six supplemental environmental projects.
 - e. Since the Complaint and payment of the ACL in 1995, Pacific has violated its NPDES permits.
 - f. During the period from May 7, 1995 through September 9, 1997, Pacific violated its NPDES discharge limits on 230 days, releasing over 24.3 million gallons of inadequately treated wastewater and polluted stormwater to San Pablo Bay. The violations resulted, in part, from insufficient operator attendance to and problems encountered with the operation of the wastewater treatment plant, insufficient allocation of resources, and inadequate operator training provided by Pacific.
 - g. A Notice of Violation (NOV) letter was issued to Pacific on October 30, 1995 citing nickel exceedances of daily average concentration limit in E-001 discharges. Another NOV was issued on September 10, 1997 for repetitive high mortality rates in Pacific's July and August 1997 acute bioassay tests.
 - h. Pacific could have avoided many of the violations by improving maintenance and operations of its treatment plant, enhancing communication among its staff, and providing satisfactory training to refinery staff.
6. Issuance of this Complaint is exempt from the provisions of the California Environmental Quality Act in accordance with Section 15321(a)(2), Title 14 of the California Code of Regulations.

PROPOSED CIVIL LIABILITY

7. The maximum civil liability which could be imposed by the Regional Board in this matter is as follows:

\$10,000 for each day in which a violation of the permits occurred plus \$10 per gallon for the discharge volume that is not susceptible to cleanup and that exceeds 1,000 gallons. If this matter is referred to the Attorney General, higher liability of \$25,000 per day of violation and \$25 per gallon may be imposed.

8. The Executive Officer of the Regional Board proposes that administrative civil liability be imposed by the Regional Board in the amount of \$362,000. This amount, including the staff costs of \$12,000 to prepare this Complaint and the supporting information, will be paid to the State Cleanup and Abatement Account.
9. Further failure to comply with waste discharge requirements contained in Order No. 96-112 beyond the date of this Complaint or any revisions or amendments thereof may subject Pacific to further administrative civil liability; and/or other appropriate enforcement action(s).
10. In determining the amount of administrative civil liability, the following factors have been taken into consideration:

“The nature, circumstances, extent and gravity of the violation, and with respect to the violator, the ability to pay, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require.”

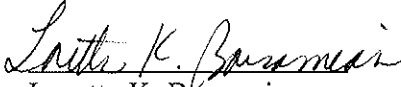
WAIVER OF HEARING

You may waive the right to a hearing. If you wish to waive the hearing, an authorized person must check and sign the waiver and return it to the Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612. Payment of the civil liability shall be made as specified in Item 8 of this Complaint.

Any waiver will not be effective until 30 days from the date the Executive Officer signs this revised Complaint to allow interested person to comment on the action.

If you have any questions, please contact Dr. Teng-Chung Wu at (510) 286-0899, or Ms. Elizabeth Miller Jennings, Esq., the Regional Board Counsel at (916) 657-2421.

12.17.97
Date


Loretta K. Barsamian
Executive Officer

WAIVER

- [] By checking the box I agree to waive my right to a hearing before the Regional Board with regard to the violations alleged in Complaint No. 97-133 and to remit payment for the civil liability imposed. I understand that I am giving up my right to argue against the allegations made by the Executive Officer in this Complaint, and against the imposition of, or the amount of, the civil liability proposed. I further agree to remit payment for the civil liability imposed within 30 days after the Complaint is signed by the Executive Officer.

Date

Discharger

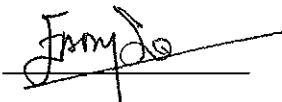
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SAN FRANCISCO BAY REGION

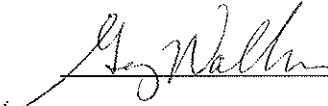
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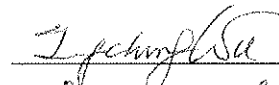
TO: Loretta K. Barsamian
Executive Officer

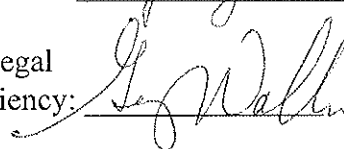
FROM: Eddy So
Associate WRCE

DATE: December 9, 1997

SIGNATURE: 

Concurred by:  Greg Walker
Section Leader

Concurred by:  Dr. Teng-Chung Wu
Division Chief

Reviewed for Legal
Form and Sufficiency:  Elizabeth Jennings, Esq.
Legal Counsel

SUBJECT: Pacific Refining Co. (Pacific), Hercules, Contra Costa County, Consideration of
Administrative Civil Liability (ACL) for NPDES Permit Violations

On September 10, 1997, Pacific sold the facility to Hercules LLC, a California limited liability company, which intends to develop the property for residential uses and does not intend to operate it as a refinery. Pacific failed to notify the Board at least 30 days before the transfer of the ownership of the property and neither Pacific nor Hercules LLC has requested a transfer of the NPDES permit.

This staff report describes the background of the Complaint No. 97-133, and the rationale for the ACL to be imposed against Pacific for its NPDES violations occurring from May 7, 1995 through September 9, 1997. During this period, Pacific violated its NPDES permit on 230 days, releasing over 24.3 million gallons of partially treated wastewater and polluted stormwater to San Pablo Bay. Similar types of violation have occurred in 1993 and 1994, and were cited in the Board's Complaint No. 95-049 dated June 20, 1995. The violations cited in this staff report include acute bioassay toxicity, total suspended solids (TSS), selenium, metals, cyanide, pH, oil and grease, tetrachlorodibenzodioxin (TCDD) equivalents, polyaromatic hydrocarbons (PAHs), and notice of property transfer.

Most of the referenced violations were considered to be caused by one or more of the following factors: (1) the treatment plant was not operated by properly trained Pacific staff, (2) lack of communication between refinery crew members and the wastewater treatment plant operators, and (3) insufficient management oversight of the treatment plant operation and permit requirements after Pacific announced its shutdown schedule. These resulted in Pacific producing inconsistent effluent quality, and impacting the aquatic environment in the receiving water. The nature of these out-of-compliance discharges, and the demonstrated acute toxicity in Pacific's bioassays continue to

pose a significant risk to the aquatic biota of San Pablo Bay. Based on the analysis and rationale listed below, staff recommend to seek an ACL of \$362,000, including staff costs of \$12,000.

BACKGROUND

Pacific operated a petroleum refinery in the City of Hercules until September 9, 1997. Petroleum products previously manufactured at the site include gasoline, diesel, jet fuel, gas oil and asphalt. Although the petroleum refinery operation ceased well before the property transaction date, wastewater, stored in ponds, was intermittently discharged to the treatment plant until September 4, 1997. Three discharge streams from the refinery were identified, and regulated by the NPDES Permit No. CA0005096 under Board Order Nos. 90-104 and 96-112, respectively. (For the purpose of this report, the term "1990 Permit" means Order No. 90-104 and its amendment Order Nos. 91-026, 91-099, and 92-100, whereas "1996 Permit" refers to Order No. 96-112). These discharges consisted of: the effluent from the wastewater treatment plant (E-001); and stormwater runoff released from two areas, namely, the Van Sandt Pond (E-002), and the Crude Catch Basin (E-003).

The normal E-001 wastewater stream, which included process waste, cooling tower and boiler blowdown, and sanitary sewage, was discharged to San Pablo Bay through a deep water outfall at an average rate of 0.22 million gallons per day (mgd). The stormwater discharges are also released to San Pablo Bay; but they may be routed back to the wastewater treatment plant if contaminated, and discharged as part of E-001 effluent.

Treatment of the process waste stream included American Petroleum Institute (API) separation, pH adjustment, dissolved air flotation (DAF), activated sludge, and settling prior to discharge through E-001; sanitary waste was disinfected prior to being routed to the biological retention pond. Floating oil from the Van Sandt Pond is skimmed and recycled; and the water flows under a baffle through a straw filter prior to discharge through E-002. The Crude Catch Basin runoff flows through a straw filter or absorbent prior and discharge through E-003.

Many of the experienced engineers and operators left upon Pacific's announcement of refinery shutdown in late 1993. Since then, the wastewater treatment plant has not been operated properly. NPDES permit violations started to occur intermittently.

ENFORCEMENT CONSIDERATIONS

Section 13385 (e) of the California Water Code directs the Board to consider several factors when proposing an ACL. These include the nature, circumstances and extent of violations, degree of culpability, prior history, economic savings, and ability to pay.

The Standard Provisions and Reporting Requirements of the 1990 and 1996 Permits state in their respective Sections D.2 and F.2 that "any violation of the permit constitutes violation of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof".

The ACL was based on staff evaluation of Pacific's non-compliance with the 1990 and 1996 Permits during the above-referenced period.

I. NATURE, CIRCUMSTANCES, AND EXTENT OF VIOLATIONS

From May 7, 1995 through September 9, 1997 Pacific violated permit limits on concentration and mass loading and toxicity, and failed to notify the Board of the property transfer for a total of 230 days. These include acute bioassay toxicity (28), total suspended solids (25), selenium (42), metals (34), cyanide (1), pH (3), oil & grease (1), TCDD equivalents (22), PAHs (44), and Notice of Transfer (30). Table 1 summarizes these violations including the volumes of discharge. Pacific has discharged more than 24.3 million gallons of out-of-compliance wastewater and stormwater to San Pablo Bay during this period. Limitations for the above parameters have been established in Section A of the 1990 and 1996 Permits, and are included in the "Remarks" column of the Table. Most of these violations resulted from operator's inexperience, Pacific's inattention to the plant operation and permit requirements, and unreliable plant performance.

The 1996 Permit contains the following acute toxicity limitation:

"The survival of test fishes in a 96-hour static renewal bioassay of the effluent as discharged shall not be less than 70 percent survival, with a 3-sample median value of not less than 90 percent survival..."

Table 1 shows that Pacific violated this requirement on 28 days during its July and August 1997 bioassay tests. Pacific claimed that there were no new water sources introduced to the wastewater treatment plant, and it did not know the reason for the fish mortality observed in its August 11, 1997 test. However, it believed that the August fish mortality was not related to the July exceedances which was caused by the introduction of un-tested flushing water from the merox unit to the treatment plant. Although Pacific stopped discharging upon discovering the July exceedances, and conducted a static bioassay test to determine if the water quality had improved, more than 5.2 million gallons of partially treated wastewater had been discharged to San Pablo Bay.

Although the 1990 Permit did not mandate the use of rainbow trout as one of the compliance species, Pacific had been conducting rainbow trout tests concurrently with its compliance bioassays. Acute toxicity on compliance species and rainbow trout were reported in 1993 through 1996. Based on the findings that rainbow trout exhibited the most sensitivity to Pacific effluent, the 1996 Permit specified it as one of the compliance species. Board staff has been aware that Pacific continued to have difficulty in maintaining high survival rates for rainbow trout, even before the time when fish type was specified as a compliance species. Pacific attributed all these fish mortalities to unhealthy fish supply, poor testing equipment and procedures, and other reasons than the likely toxicity in the effluent itself. Despite its modification of the testing procedures and conditions, and changing the fish supply sources, the survival rates of rainbow trout and other species had never consistently improved.

The 1996 Permit prohibits the discharge of effluent containing TSS in excess of daily maximum concentration limit of 80 mg/l, whereas the 1990 Permit set the effluent limit on monthly average mass loading to be 59 kg/d. Other limits for TSS were also specified in these Permits, but no exceedances of those limits were reported. In May 1995, a contractor performing sludge dewatering work on the site used excessive polymer which entered the API separator and caused poor oil and grease removal. The resulting high oil and grease loading adversely affected the biomass in the biosystem, which led to high TSS in the treated effluent. Because the TSS violations occurring on May 1 through May 6, 1995 had been cited in the previous Complaint No. 95-049, those days of violation were not considered in this ACL.

The May 1997 exceedance of TSS daily maximum concentration limit was reportedly caused by the presence of algae within the composite sampler as a result of long time inactive use of the sampler. Board staff believed that this violation could have been avoided if the operator followed proper procedures before and during the sampling event.

Provision 2 of Order No. 91-099 (part of 1990 Permit) set the running annual average limit on Pacific's selenium mass emission rate to 0.05 pounds per day. It also states that "any enforcement action by the Board will be based on violation of the explicit numeric limits listed". All weekly sample results of May 1995 showed that selenium mass loading exceeded the 52-week rolling average limit. Similar exceedances were also reported for the first two weekly average loadings in June 1995, resulting in Pacific violating this limit for a total of 6 weeks. Although Pacific attributed all these exceedances to the increased wastewater flow rates, it was still its responsible to operate the wastewater treatment plant in compliance with the Permits. However, because the violations on May 1 through May 6 had been cited in the previous Complaint No. 95-049, these days were not included in this ACL assessment.

Metal violations occurred on 34 days during this period. These include exceedances of permit limits for monthly average concentrations of mercury (30) and daily average concentrations of nickel (4). Provision A.3 of the 1996 Permit prohibits the discharge of effluent containing monthly average concentration of mercury in excess of 0.21 ug/l. For nickel, Provision A.3 of the 1990 and 1996 Permits set the daily average concentration limits to 71 ug/l and 65 ug/l, respectively.

Pacific did not report the causes for the mercury exceedances which occurred in October 1996 and May 1997.

Daily average concentration limit of nickel was exceeded three times in E-001 discharges during the month of October 1995. The exceedances ranged from 41% to 238% above the permit limit of 71 ug/l. Pacific tracked the source of the nickel pollution to a "bundle pad tank" which was used to collect water generated during the hydroblasting (cleaning) of vessels. Water from the tank was sent to the wastewater treatment plant without first being analyzed for metals. Although Pacific subsequently isolated the tank from the treatment plant, and recycled the treated effluent without further discharging, approximately 2.5 million gallons of out-of-compliance water had been released to San Pablo Bay. A Notice of Violation was issued to Pacific for these nickel violations.

Another nickel exceedance occurred in August 1996. The source for that violation was claimed to be related to the crude unit, but the actual cause of the pollution was not clearly stated.

Cyanide at concentration of 70 ug/l was reported in February 1996. This concentration was 280% higher than the 1990 Permit limit of 25 ug/l. Pacific attributed the violation to laboratory errors, but Board staff believed that it would be inappropriate to exclude the possibility of the presence of cyanide in the E-001 effluent.

Provision A.4 of the 1990 Permit stated that the pH of the discharge of waste 001 shall not exceed 9.0 nor be less than 6.0. Provision A.8 of the same permit prohibited the E-002 and E-003 discharges of stormwater containing daily maximum pH value outside the range of 6.5 and 8.5. The pH value recorded from the stormwater outfall E-002 on April 15, 1996 was 8.8, exceeding the upper limit of 8.5 specified in the permit. Pacific attributed this violation to algae growth in the stormwater pond. Another pH violation in stormwater discharge (E-003) occurred on August 20, 1997. Pacific attributed this violation to sample contamination. A third pH violation was reported on April 30, 1996. It lasted for 1.5 hours, and was reportedly caused by a pH equipment failure. This type of equipment problem had occurred before, and was cited in the previous Complaint No. 95-049. The recurrence of the pH problem resulting from faulty equipment indicated that Pacific had not given serious attention to its efforts to maintain the wastewater treatment plant to achieve compliance with the permit.

Other violations of the 1996 Permit include (i) TCDD Equivalents exceeding the monthly average concentration limit of 0.14 pg/l by 334% in December 1996, (ii) PAHs in which both Chrysene and Benzo(a)anthracene exceeded their monthly average concentration limits of 0.49 ug/l in December 1996, and (iii) oil and grease above the daily maximum concentration limit of 15 mg/l for E-002 stormwater discharge. Pacific claimed the first two types of violation to be a result of laboratory errors, and the third violation was attributed to improper sampling technique used by the wastewater treatment plant operator. Board staff believed that all these pollutants were commonly found in refinery. The presence of them in wastewater at concentrations above their respective permit limits indicated that a pollution problem might have existed.

Section E.4 of "Standard Provisions and Reporting Requirements", dated August 1993, states that:

"Transfer of control or ownership of a waste discharge facility under an National Pollutant Discharge Elimination System permit must be preceded by a notice to the Board at least 30 days in advance of the proposed transfer date....."

40CFR122.61 also contains similar requirements on the transfer issue. Pacific failed to notify the Board in writing at least 30 days in advance of the proposed transfer of ownership of the facility. Board staff only received a written notice dated September 11, 1997, which is one day after the transfer, from the new owner.

In conclusion, most of the above-mentioned violations occurred as a result of Pacific's loss of experienced environmental compliance staff due to its plan of refinery shutdown. Although

replacement staff was hired seven months later, Pacific had not been able to provide adequate training, proper management, sufficient guidance, and allocation of resources to the new wastewater treatment plant operators. These led to unreliable NPDES permit compliance throughout 1995 to 1997.

II. GRAVITY OF VIOLATIONS

Pacific's high bioassay mortality rates, amounting to more than 5.2 million gallons of toxic effluent released during July and August 1997, have impacted the aquatic biota in San Pablo Bay.

Ecotoxicity studies have shown that selenium is toxic to aquatic organisms and wildlife. High incidences of embryotoxicity and mortality of adult birds were reportedly attributed to the effects of selenium, which has been shown to be bioaccumulative through the aquatic food web upon which birds and other wildlife feed. Water quality impacts from heavy metals such as mercury and nickel have been well documented. Mercury may be both acutely and chronically toxic to marine and freshwater fish. Nickel presents more of a chronic problem to marine and freshwater fish than an acute one. In fact, chronic low level nickel exposure may reduce the diffusion capacity of gills, which ultimately leads to asphyxiation. Additionally, wastewater having characteristics of low pH, and containing excessive TSS, TCDD Equivalents, PAHs, oil and grease, and cyanide had been shown to be toxic to fish and aquatic species to various extent. The releases of over 19.1 million gallons of partially treated wastewater and polluted stormwater containing these chemicals and the aforementioned metals during the referenced period are believed to have further impacted San Pablo Bay and its aquatic community.

III. DEGREE OF CULPABILITY

The acute toxicity violations resulted from poor bioassay procedures and equipment as well as the introduction of unknown quality washdown water from the merox unit to the wastewater treatment plant. In fact, Pacific had been well aware of its low rainbow trout survival even before the fish type was specified as a compliance species in the 1996 Permit. Its implementation of changes in bioassay testing procedures and equipment in 1995 did not help prevent the violation from occurring. Furthermore, the operator's failure to analyze the merox flushing water before its release to the treatment plant was a major operating mistake causing bioassay violations. Should Pacific have mandated its operator to follow proper procedures in these activities and conducted a systematic investigation of the cause(s) for the past fish mortalities, such violations could have been avoided.

The exceedances of TSS mass loadings limit were caused by a stressed biomass in the treatment system during a start-up of dewatering process for API separator/DAF sludge. Excessive oil and grease entered the biosystem as a result of poor API separation. This violation was a result of poor communication between the Pacific operator and its contractor, and the lack of good planning prior to the dewatering start-up. It would be possible to avoid such violations if Pacific had stopped further discharging to San Pablo Bay upon its discovery of the system upset.

Although Pacific claimed that the selenium mass loading exceedances were attributed to the increase in wastewater flow rate only, it was still Pacific's responsibility to ensure that its selenium discharge complied with both concentration and mass loading limits. Board staff believed that by using appropriate pond management strategy to equalize and re-distribute the varying flow rates, Pacific could have avoided these violations.

Although Pacific had expressed its intent to identify all sources for the presence of mercury, no result of investigation was documented in its subsequent self-monitoring reports. Such a failure to follow up with the causes of these exceedances indicated that Pacific was not attentive to its compliance status.

The nickel violations in October 1995 were caused by inexperienced operator of the wastewater treatment plant. Pacific was responsible for the lack of proper communication between the refinery crew and the treatment plant operator, as well as the operator's failure to analyze the hydroblasting water prior to its release treatment plant. It was either the treatment plant operator not following standard operating procedures for such activities, or there might have no such procedures established by Pacific. In either case, Pacific was culpable for letting wastewater containing nickel at out-of-compliance concentrations to be discharged to San Pablo Bay.

The E-001 pH exceedance was caused by poor equipment maintenance, and the lack of operator attention to pH alarm conditions. The other two pH violations in stormwater discharges were the results of poor plant operation and inexperienced operator using improper sampling technique.

Although Pacific attributed the other violations including cyanide, oil and grease, TCDD Equivalents, and PAHs to sampling problems or laboratory errors, Board staff found no evidence to eliminate the possibility that these chemicals could be present at out-of-compliance concentrations. In fact, it was Pacific's responsibility to (i) ensure all laboratory tests to be performed with proper QA/QC procedures, and (ii) provide its operators with adequate training prior to letting them assume duties including the collection of representative water samples for compliance analysis.

It was Pacific's responsibility to inform Board staff of the property transfer at least 30 days before the date of ownership change. Pacific failed to meet this requirement. The 1993 Standard Provisions and Reporting Requirements requests dischargers voluntarily provide complete and accurate information in a timely manner. The submittal of inaccurate monitoring reports, and the late submittal of required information are considered significant non-compliance issues, and are contrary to Board policy. It was Pacific's ultimate responsibility to provide complete and accurate information regardless of its business decision and facility operation status.

IV. PRIOR HISTORY

The Board issued an ACL in mid-1995 for a monetary penalty of \$300,000 against Pacific for the violations of the 1990 Permit during the period of 1990 to May 6, 1995. Since then, a notice of

violation (NOV) letter was issued to Pacific on October 30, 1995, citing nickel exceedances of daily average concentration limit in E-001 discharges. On September 10, 1997, another NOV letter was sent to Pacific, expressing Board staff's concerns on the 100% rainbow trout mortalities in the July and August bioassay tests. In fact, Pacific had been aware of its continuous problem of having low rainbow trout survival rates between 1993 and 1996.

V. ECONOMIC SAVINGS

In its explanations, Pacific attributed the above-mentioned violations to poor bioassay equipment and testing procedures, unhealthy fish supplies, poor sampling techniques, laboratory errors, and faulty pH equipment. Board staff believed that many of the violations probably could have been avoided if Pacific had properly planned and coordinated its refinery maintenance activities and wastewater treatment plant operations, hired or retained its experienced compliance and operation staff, and provided better training to its operators and laboratory technicians. Pacific's economic savings would amount to the corporate interest or investment income earned from capital and expenses that would have otherwise been spent on plant improvements and additional staffing needs necessary for compliance with its NPDES permit. The amount of economic savings has not been quantified.

VI. ABILITY TO PAY

Pacific sold the facility to Hercules LLC on September 10, 1997. It had already ceased its refinery operation before this Complaint. Therefore the proposed ACL should have no effect on its business decision. Pacific should be able to pay the proposed monetary penalty of \$362,000 through its revenue obtained from the sale of the facility and continuous operation in other parts of California and the United States.

RECOMMENDATIONS

The California Water Code provides several enforcement remedies for discharges in violation of Board-issued NPDES permits:

- (1) Impose Administrative Civil Liability pursuant to Section 13385
- (2) Refer to the Attorney General to have a superior court impose civil liability pursuant to Section 13385

Section 13385 sets a maximum liability of \$10,000/day and \$10/gallon (imposed administratively) or \$25,000/day and \$25/gallon (imposed by superior court).

The Regional Board has previously imposed monetary penalty in an amount of \$300,000 against Pacific for violating discharge limits on heavy metals, pH, toxicity, total suspended solids, coliform, oil and grease concentration and mass loading requirements in its wastewater discharge to San Pablo Bay.

In consideration of the facts in this case and prior Board actions, Board staff believe that it would be excessive to impose, and an unfair burden to Pacific to pay, the maximum amount of ACL. Staff recommends that the Board imposes an administrative liability of \$362,000 against Pacific for its violation of both permits limitations on 230 days and over 24.3 million gallons of inadequately treated wastewater and polluted stormwater discharged during the period of May 7, 1995 to September 9, 1997. The proposed liability also includes \$12,000 in staff costs to prepare the Complaint and staff report.

Attachments:

Table 1 - Summary of Violations of 1990 and 1996 Permits

Table 1. Summary of Violations of 1990 and 1996 Permits

Pacific Refinery Company

From May 6, 1995 Thru' Sept 9, 1997

PACIFIC REFINERY COMPANY NPDES VIOLATIONS:

1. Bioassay Violations (96-hrs test)

a) Individual Sample Violations	Survival % Rainbow Trout	Survival % Stickleback	Discharge (gal)	Remarks
8/11/97	0	60	766,800	< single test survival limit of 70%, only 3 days had discharge
7/21/97	0	* ⁽¹⁾	1,395,216	< single test survival limit of 70%, 7-day flow
7/14/97	0	20	1,515,888	< single test survival limit of 70%, 7-day flow
7/7/97	55	*	1,580,688	< single test survival limit of 70%, 7-day flow
			5,258,592	Total flow, gallons
b) 3-Sample Median Violations				
8/11/97	0	*	NA	< 3-sample median survival limit of 70%
8/4/97	0	*	NA	< 3-sample median survival limit of 70%
7/21/97	0	*	NA	< 3-sample median survival limit of 70%
7/14/97	55	*	NA	< 3-sample median survival limit of 70%

*Summary of Bioassay Violations**Number of Days of Violations* 28*Total Wastewater Discharged, gal:* 5,258,5922. TSS Violations

	Conc. (mg/l)	Loading (kg/d)	Discharge (gal)	Remarks
May-95		86.80	6,696,375	> monthly avg. loading limit of 59 kg/d ⁽²⁾
5/22/97	101.6	*	122,832	> daily max conc. limit of 80 mg/l
			6,819,207	Total flow, gallons

*This flow has been included in the penalty assessments of Se & Hg below.**The flow volume will not be re-counted for the TSS violations**Summary of TSS Violations**Number of Days of Violation:* 253. Selenium Violations

	Conc. (mg/l)	Loading (lb/d)	Discharge (gal)	Remarks
6/11/95	*	0.051	1,739,447	> 52-wk rolling avg mass loading limit of 0.05, 7-day flow
6/8/95	*	0.051	1,670,747	> 52-wk rolling avg mass loading limit of 0.05, 7-day flow
5/29/95	*	0.052	1,434,614	> 52-wk rolling avg mass loading limit of 0.05, 7-day flow
5/21/95	*	0.053	1,944,489	> 52-wk rolling avg mass loading limit of 0.05, 7-day flow
5/14/95	*	0.054	1,944,505	> 52-wk rolling avg mass loading limit of 0.05, 7-day flow

Table 1: Summary of Violations of 1990 and 1996 Permits

Pacific Refinery Company

From May 6, 1995 Thru' Sept 9, 1997

5/7/95	*	0.053	2,018,938	> 52-wk rolling avg mass loading limit of 0.05, 7-day flow ⁽³⁾
			10,752,740	Total flow, gallons

Summary of Selenium Violations

Number of Days of Violation: 42

Total Wastewater Discharged, gal: 10,752,740

4. Mercury Violations

	Conc. (ug/l)	Discharge (gal)	Remarks
May-97	0.29	2,870,784	> 30-day avg. conc. limit of 0.21 ug/l, only 16 days had discharge
Oct-96	0.3	2,013,653	> 30-day avg. conc. limit of 0.21 ug/l, only 14 days had discharge
		4,884,437	Total flow, gallons

Summary of Mercury Violations

Number of Days of Violation: 30

Total Wastewater Discharged, gal: 4,884,437

5. Nickel Violations

	Conc. (ug/l)	Discharge (gal)	Remarks
8/27/96	100	194,731	> daily avg conc. limit of 65 ug/l, 1-day flow
10/17/95	140	75,067	> daily avg conc. limit of 71 ug/l, 1-day flow
10/8/95	240	68,299	> daily avg conc. limit of 71 ug/l, 1-day flow
10/1/95	100	63,662	> daily avg conc. limit of 71 ug/l, 1-day flow
		401,759	Total flow, gallons

Summary of Nickel Violations

Number of Days of Violation: 4

Total Wastewater Discharged, gal: 401,759

6. Cyanide Violations

	Conc. (ug/l)	Discharge (gal)	Remarks
2/18/96	70	287,510	> daily avg conc. limit of 25 ug/l, 1-day flow
		287,510	Total flow, gallons

Table 1: Summary of Violations of 1990 and 1996 Permits

Pacific Refinery Company

From May 6, 1995 Thru' Sept 9, 1997

*Summary of Cyanide Violations**Number of Violations: 1**Total Wastewater Discharged, gal: 287,510*7. pH Violations

Exceedance	Duration	Discharge (gal)	Remarks
8/20/97	1 day	NA	E003 stormwater, exceed permit limit of 6.5
4/30/96	1 hr 30 min	15,539	outside permit limit range of 6.0 - 9.0, 1.5-hr flow
4/15/96	1 day	NA	E002 stormwater, exceed permit limit of 8.5
		15,539	Total flow, gallons

*Summary of pH Violations**Number of Violations: 3**Total Wastewater Discharged, gal: 15,539*8. Oil & Grease (O&G) Violations

Conc. (mg/l)	Loading (kg/d)	Discharge (gal)	Remarks
12/21/96	NA	NA	E002 stormwater, exceed permit limit of 15 mg/l

*Summary of O&G Violations**Number of Violations: 1*9. TCDD Equivalents Violations

Conc. (pg/l)	Loading (kg/d)	Discharge (gal)	Remarks
12/10/96	NA	2,770,747	> monthly avg. conc. limit of 0.14 pg/l, only 22 days had discharge
		2,770,747	Total flow, gallons

*Summary of TCDD Equiv Violations**Number of Days of Violation: 22**Total Wastewater Discharged, gal: 2,770,747*

Table 1. Summary of Violations of 1990 and 1996 Permits

Pacific Refinery Company

From May 6, 1995 Thru Sept 9, 1997

10. PAHs Violations

Conc. (ug/l)	Loading (kg/d)	Discharge (gal)	Remarks
0.5	NA	2,770,747	> monthly avg conc. limit of 0.49 ug/l for Chrysene
0.5	NA	2,770,747	> monthly avg conc. limit of 0.49 ug/l for Benzo(a)anthracene
			Total flow (same as that for TCDD Equivalents), gallons

This volume has been included in the penalty assessment of TCDD

Equivalents above. Thus, this flow will not be re-counted for PAHs violation

However, 2 chemical exceedances on each day of violation

Summary of PAH ViolationsNumber of Days of Violation:

44

11. Notice of TransferFailure to meet 30-day requirementNumber of Violations:

30

Summary of NPDES Violations

Parameter	Days of Violations	Volume (gal.)
Acute Bioassay Test	28	5,258,592
TSS	25	-
Selenium	42	10,752,740
Mercury	30	4,884,437
Nickel	4	401,759
Cyanide	1	287,510
pH	3	15,539
Oil & Grease	1	-
TCDD Equivalents	22	2,770,747
PAHs	44	-
Fail to Notice of Property Transfer	30	-
Total	230	24,371,324

Notes:

(1) * = in compliance

(2) TSS exceedances on 5/1/95 through 5/6/95 were cited in the previous ACL No. 95-049.

(3) Weekly-flow volume estimation starts on 5/7/95, 5/14/95, 5/21/95, 5/29/95, 6/4/95 & 6/11/95